

Alberta

Naturalist

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vol.4 no.4

dec., 1974

ALBERTA NATURALIST

VOLUME 4 NUMBER 4

DECEMBER , 1974

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Cover: "Young Prairie Falcon" by Tom Taylor

Our cover artist, Tom Taylor, has been working on the habitat programme at the Provincial Museum for 3 years. Formerly of Moose Jaw, Tom's work was included in the 1972 Nature Canada exhibition.

NATURALISTS' BOOKSHELF

by John M. Powell, Edmonton

"Rocky Mountain Wild Flowers" by A.E. Porsild. Illustrations by Dagny Tande Lid. Natural History Series, No. 2. National Museum of Natural Sciences, National Museums of Canada, and Parks Canada, Dept. of Indian & Northern Affairs. 454 p. 1974. \$5.00

This book, which "has been designed primarily for the use of visitors to Jasper, Banff and Waterton Lakes National Parks", is a good addition to the floral guides of Alberta. The book contains color drawings of 258 of the approximately 1,250 species known to Porsild from the Rocky Mountain National Parks of Alberta. A further 180 similar or related species are described for which illustrations are not provided by the Norwegian artist Dagny Tande Lid. The colored drawings are very good and together with the descriptive notes on the opposite page provide an adequate identification for the user. The notes include descriptions of the plants, their habitat, occurrence and distribution, and occasionally other information about the name or whether parts of the plants are edible or not. Use of the glossary of botanical terms at the back of the book will assist the user in identifying the described and illustrated species which are grouped taxonomically, as in most floristic manuals. Introductory descriptions are given for some families and brief keys are provided for the Sedge and Composite families. The number of genera and species represented in the area is given for some families. Elsewhere the user is left to guess whether the illustrated species is the only representative of the commoner and more showy plants, however, it is surprising, although pleasant, to find illustrations or descriptions of a few species (eg. Hierochloa alpina, Romanzoffia sitchensis, Erigeron radicans) known from single locations in the Park or outside (!) but it is questionable how valuable this will be for a Park's visitor. A few statements about the occurrence of certain species (eg. Koenigia islandica) are now obsolete with recent information published by Packer and Dumais (1972) and Kuijt (1973). Similarly the total of 1,250 species occurring in the Park areas should be increased slightly. This is one of the problems of a book appearing several years after it was essentially completed. Porsild began field studies in the area in 1945, and mentioned over a decade ago the preparation of a popular guide illustrated in color by drawings made in 1956 by Mrs. Lid (Porsild 1959).

It is commendable that Porsild has persisted, since his retirement as Chief Botanist at the National Museum, in his intent to publish a popular guide to many sub-alpine and alpine species of the Alberta Rocky Mountain National Parks. The title "Wildflowers of the Alberta (or Canadian) Rocky Mountain National Parks" might have been more appropriate for this book for unless one is aware it is a Canadian publication, books with similar titles have been published for American portions of the Rocky Mountains.

The introduction includes a brief description of the route along the Jasper-Banff Highway, and the glacial history of North America which lead to different elements of the flora of the area. In most instances he mentions whether a species belongs to the endemic "Cordilleran" element, or to a "Circumpolar", "Circumboreal", "North America", "Northwestern America" or "Amphi-Beringian" element.

Every author of floral manuals or guides is faced with the problem of common names! Porsild has been selective in his use, providing some names where Moss (1959) has not. Some of the common names selected will sound strange to Albertans, and some other alternative names might have been used. Among these might have been Water birch for Betula occidentalis, Calypso orchid for Calypso bulbosa, Star-flowered Solomon's Seal for Smilacina stellata, Purple or Blue Clematis for Clematis columbiana, Pine dwarf mistletoe for Arceuthobium americanum (which incidently is not illustrated by Cormack's (1967) photo p. 69 - this is a yellow witches' broom of spruce caused by the rust fungus Chrysomyxa arctostaphyli), Saskatoon-berry for Amelanchier alnifolia, Prince's pine for Chimaphila umbellata var. occidentalis, Blue Camas for Camassia quamash, and Fairy candelabra for Androsace septentrionalis. There are some inconsistencies in the treatment. Authorities are not always given for similar and related species to those illustrated and distribution data are lacking for some species. It is unfortunate that the notes for a few species are compared to a species that follows and hasn't been introduced, eg. Cassiope mertensiana, Phyllodoce empetrifomis. Why was jack pine included in the guide when it doesn't occur in the area? A stronger case can be made for the inclusion of species not yet found in the Parks, eg. Phacelia Franklinii and Erigeron radicans, although known from the adjacent areas. Users may wonder why Porsild persists in the use of capital initial letters for specific epithets directly derived from the names of persons. Such a use is allowed (International Code of Botanical Nomenclature 1972, Recommendation 73F) although there is a trend by most taxonomists to use a small initial letter for such cases. Throughout the text measurements of plants are given in the metric system, shortly to be employed in all publications of the Government of Canada. To assist the

reader not familiar with this system a conversion scale is included inside the back cover. A map of the area would have been a useful additional feature of the book especially as Waterton Lakes National Park is not contiguous with the other two parks and as the book is intended for visitors.

The book is an excellent illustrated guide to selected wildflowers of the Alberta Rocky Mountains, especially the sub-alpine and alpine areas. It should become very popular, and I would encourage naturalists and all interested visitors to obtain a copy at the first opportunity. Its 5 by 7 inch size makes it suitable for packing along on a trip. For how many trips I don't know, as my reviewer's copy was already showing signs of deteriorating after the initial desk use.

Cormack, R.G.H. 1967. Wild flowers of Alberta. Govt. of Alberta, Dept. of Industry & Development. 415 pp.

Kuijt, Job. 1973. New plant records in Waterton Lakes National Park, Alberta. Can. Field-Naturalist 87: 67-69.

Moss, E.H. 1959. Flora of Alberta. Univ. Toronto Press. 546 pp.

Packer, John G. and Madeleine G. Dumais. 1972. Additions to the flora of Alberta. Can. Field-Naturalist 86: 269-274.

Porsild, A.E. 1959. Botanical Excursion ... to Jasper and Banff National Parks, Alberta: alpine and subalpine flora. Can. Dept. Northern Affairs & Nat. Res., National Museum Canada. 38 pp.

THE USE OF PLACE NAMES IN NATURAL HISTORY AND SCIENTIFIC PUBLICATIONS

by Norbert G. Kondla, P.O. Box 1284, Calgary

Middleton (review of Alberta Vireos and Wood Warblers in Can. Field Nat. 88: 247-248) brought up an issue that has irritated me for some time. The issue is the use of place names in publications without indication of where the places are.

This is not always an oversight on the part of the authors. For example, Kondla and Pinel (Breeding records of 19 species of birds in southern Alberta, Blue Jay 31: 153-157) submitted a map as part of the manuscript to show the location of the many obscure place names mentioned in the text. The powers that be unfortunately felt it was not worth including in the publication. In consequence, persons unfamiliar with the place names could have considerable fun (?) and

spend a lot of time trying to locate the places mentioned.

To alleviate this vexing situation, I would like to present three alternatives to authors and editors:

1. include a good map of the area in question, showing the location of the place names
2. indicate a standard reference source for place names. This will then allow interested readers to easily locate the places. For Alberta the recommended source is the Gazetteer of Canada, Alberta
3. include alternatives 1 and 2.

I would prefer to see alternative 3 adopted as standard procedure. For publications that list only a few place names, it is of course sufficient to include a locational designation such as latitude and longitude in the text.

For those unfamiliar with the Gazetteer of Canada, Alberta, I present the following comments. The Gazetteer of Canada, Alberta (second edition) was published in 1974 for the Canada Permanent Committee on Geographical Names by the Surveys and Mapping Branch, Department of Energy, Mines and Resources. It is available for \$5.00 by mail from Information Canada, Ottawa. It is also available from regional Information Canada bookstores and can probably be ordered from most private booksellers. The catalogue number is M86-11/1974. Similar publications are available for the rest of Canada.

The book includes an alphabetical listing of named natural features, populated places, and other cultural features. For each entry is given the index number of the appropriate 1: 250,000 National Topographic Series map sheet, location in terms of section, township and range, and position in terms of latitude and longitude. Three maps are included, two of which are very useful. One portrays the location of the 1: 250,000 NTS map sheets, the other shows townships and ranges along with major streams, lakes and populated places.

Although a very well prepared and useful document, it is not 100% complete. Users should be aware that not all provincial parks have been included.

In sum, my message is this: authors and editors should pay more attention to clearly communicating "where", especially in publications with an obvious biogeographical emphasis.

PURPLE MARTIN FEEDING NOTES

by E.H. Carroll, 6919 84 Ave., Edmonton

On July 18, 1973, a black two year old or older male purple martin was observed feeding young hatched on July 11 by yearling birds. This older male was mated to a female which had hatched four young on June 25. Three of their four young died at approximately fourteen days of age. The male appeared to first attempt, unsuccessfully, to feed his own young, then await the departure of the yearling pair before feeding their young. This behavior was observed twice on July 18 and several times in the following three days.

In a second house another interesting mating and nesting behavior was observed. One compartment was occupied by a mature pair. This pair had finished building a nest on June 17 when very strong winds and heavy rain occurred. On the morning of June 18 a mature male was found dead, and in the days to follow it was obvious the dead bird was from this cavity. Around this time the colony was quite active with yearling males, and on June 19 three of these young males were seen fighting around this four-compartment house. A couple of days later one yearling male was seen carrying nesting material to the nest cavity. The female who had fought off the young males previously was now permissive with this one male, occasionally pecking him. A second pair bond had apparently been formed.

Around August 2 or 3, martins other than the ones from the two houses were observed inspecting the unoccupied nest cavities. A mature female was seen sitting on top of the four-compartment house over the one occupied nest cavity with food in her mouth. When neither parent bird was present, she would fly down to the cavity porch and feed the young from the porch, without actually entering the cavity. This was observed for several days, at all times of the day and evening. She was caught feeding the young several times by the pair and chased off, but always returned to feed the young again. The young male appeared quite permissive with her but not the female. The other female, presumably the mother, was marked with excrete. All three adults were observed together and differences noted between each bird. The second female occasionally carried droppings away from the nest.

Recent Publications on the Natural History of Alberta (10)

compiled by Martin K. McNicholl, Dept. Zoology, U of A, Edmonton

- Alley, N.F., and S.A. Harris. 1974. Pleistocene Glacial Lake Sequence in the foothills, southwestern Alberta. Can. Jour. Earth Sciences, 11: 1220-1235.
- Bystrak, D., C.S. Robbins, S.R. Drennan, and R. Arbib (Editors), 1974. Wintering areas of bird species potentially hazardous to aircraft. Special Rpt., National Audubon Soc., and U.S. Fish and Wildlife Serv. iii + 156 pp.
- Chalmers, G.A., and M.W. Barrett. 1974. Echinococcus multilocularis Leuckart, 1863 in rodents in southern Alberta. Can. Jour. Zool. 52: 1091.
- Cody, Wm. J., Bernard Boivin and George W. Scotter. 1974. Loiselevria procumbens (L.) Desv., alpine azalea, in Alberta. TC-F-N 88/2 p. 229.
- Fisher, B.M. 1974. Responses of a Hawk Owl to a lure. Blue Jay. 32: 154-155.
- Gill, D. 1974. The Gray Jay as a predator of small mammals. Can. Field Nat., 88: 370-371.
- Halliday, I. (compiler). 1974. The seventy-fourth Christmas Bird Count. 79. Calgary, Alta. American Birds, 28: ; 187
- Houston, C.S. (Editor). 1974. The winter season. December 1, 1974-March 31, 1974. Northern Great Plains. Amer. Birds 28: 653-656.
- Ladanyi, B. 1974. Prediction fo foundation deformations in Edmonton, Alberta: Discussion. Can. Geotechnical Journ., 11: 215-216.
- Macaulay, A.J. and D.A. Boag. 1974. Waterfowl harvest by Slave Indians in Northern Alberta. Arctic. 27: 15-26.
- McCormach, M. 1974. Alberta's fight to reduce hail damage. Can. Geographical Jour. 89 (1-2): 30-39.
- Marsh, A.H. 1974. The botany and natural history of middle Springs Swamp, Banff, Alberta. The CFN. Vol. 88, No. 2 p. 129
- Nelson, Joseph S., Martin J. Paetz. 1974. Evidence for underground movement fishes in Wood Buffalo National Park, Canada, with notes on recent collectionn made in the park. T CFN 88/2 p. 157

- Packer, J.G. and D.H. Vitt. 1974. Mountain Park: a refugium in the Canadian Rocky Mountains. Can. Jour. Botany. 52: 1393-1409
- Park, J.L., and L.L. Goulden. 1974. 27th Winter bird population study. 77. Mature poplar forest. Amer. Birds. 28: 733.
- Powell, John M. 1974. The role of Natural Biological Agents in Controlling a Pine Stem Rust (Cronartium comandrae) Blue Jay 32:75
- Riding, R., and L.F. Jausa. 1974. Uralaporella Korde in the Devonian of Alberta. Can. Jour. Earth Sci., 11: 1414-1426
- Rippen, A.B., and D.A. Boag. 1974. Spacial organization among male Sharp-tailed Grouse. Can. Jour. Zool. 52: 591-597.
- Steiner, A.L. 1974. Body-rubbing, marking, and other scent-related behaviour in some ground squirrels (Sciuridae), a descriptive study. Can. Jour. Zool. 52: 889-906.
- Sugden, L.G., W.J. Thurlow, R.D. Harris, and K. Vermeer. 1974. Investigations of Mallards overwintering at Calgary, Alberta. Can. Field Nat. 88: 303-311.
- Trann, K. 1974. Short-eared Owls near Edmonton. 1970-1973. Blue Jay. 32: 148-153.
- Turner, R. (Compiler). 1974. The seventy-fourth Christmas bird count. 80. Edmonton, Alberta. Amer. Birds. 28: 186-188.
- Vanderjagt, Anica. 1974. Amphibians and reptiles indigenous to Calgary. Calgary Herpetological Bulletin 2(8): 6.

A PRELIMINARY LIST OF ALBERTA'S VULNERABLE BIRDS
Part 1 (Loons-Ducks)

by G.R.A. Ebel & D.A.E. Spalding
Provincial Museum of Alberta, Edmonton, Alta.

No attempt seems to have been made to establish a comprehensive list of vulnerable or endangered birds of Alberta. A paper in the Canadian Field Naturalist (Godfrey, 1970) lists birds endangered on a national basis, and two recent reports (Osborne, 1973 and Alberta Lands and Forests, n.d.) deals with several bird species considered to be endangered in the province, but neither paper attempts complete coverage. For other provinces, a limited list is associated with the

Ontario Endangered Species Act, 1971 and there is an unpublished list for British Columbia.

This is a matter of considerable public interest (for instance, many enquiries received at the Provincial Museum of Alberta ask for information on endangered species). In an attempt to provide some of this information, a travelling exhibit on selected vulnerable birds in the province was prepared by one of us (GRAE) at the Provincial Museum using funds from the National Museums of Canada. It was decided to support this by an accompanying list of birds considered vulnerable in the province.

Classification of any bird as endangered or vulnerable is somewhat subjective, especially in the absence of adequate information regarding species distribution, population and the impact of man's activities on most species. Useful research is being done on some species, notably by the Canadian Wildlife Service on birds of prey and water birds. Others are receiving attention from professional and amateur naturalists, but a number of species remain inadequately studied. In preparing this list we have included marginal species, in the hope that attention will also be directed towards them. Relevant data is widely scattered, and often unpublished. Accordingly, this list is presented in preliminary form and if possible, a more comprehensive version will be prepared.

Definition of Terms

Our concern is with birds that are presently known or suspected to breed in the province, and may cease to do so before the end of this century. Species that have bred in the recent past but are probably already extinct as breeding birds are included for completeness.

Each species is assigned to one of four categories based on those of the Red Data Book (IUCN, 1966) modified to suit Alberta. These are: Endangered: An endangered species is one whose prospects of survival and reproduction in Alberta are in immediate danger. The decrease of individuals in various populations is due to such factors as over exploitation, depletion of natural habitat, predation and vandalism. These species must have help or complete loss will probably result. Rare: A rare species is not at present endangered but does not commonly occur in Alberta due to the limited area of its preferred habitat. Peripheral: A peripheral species is one whose occurrence in Alberta is at the border of its natural range. It may be rare or endangered within the province but not elsewhere. Special attention is needed to assure that the species is maintained as a breeding bird in the province. Status undetermined: A status

undetermined (unknown) species is one that is suspected to belong to one of the above three categories, but for which insufficient information is available to base a decision. Systematic List: The species are listed in taxonomic order, with a summary of the justification for their inclusion and factors known to affect them. References to information on each species are given, but general reference such as Salt and Wilk's Birds of Alberta are not separately listed each time.

Arctic Loon (Peripheral) - The Arctic Loon was proved to breed in 1971 when Hohn (1972) found downy young near Leland Lake in the extreme northeast corner of the province. It may well breed on other lakes in the area, but information is inadequate. Limited disturbance would probably remove this species from the list.

Red-throated Loon (Status undetermined) - Recent observations (Hohn and Markovitz, 1974) suggest that this species may breed on lakes in the Caribou Mountains although fieldwork in 1974 by Provincial Museum staff was unable to provide substantiating evidence. Exact status is unknown and more data is needed. No specific threat is known.

White Pelican (Rare) - The current Alberta population is about 400 pairs in four surviving colonies (less than 0.5 per cent of the Canadian population). There has been a marked reduction in the Alberta colonies in recent years. Breeding colonies are known to be subjected to disturbance from power boats and aircraft; vandalism and biocide effects are also a concern (Vermeer, 1969, 1970 and 1971).

Double-crested Cormorant (Rare) - There appear to be only three active colonies in Alberta today, occupied by about 200 pairs. Many colonies are known to have disappeared during this century, but two of the remaining ones have recently increased in size. The Alberta population is under 10% of that of the prairie provinces. Breeding colonies are subjected to the same kinds of interference as pelicans, and biocides may also be a problem (Vermeer, 1969, 1971).

Great Blue Heron (Rare) - A colonial nester, common to many areas in the province may be undergoing gradual reduction in numbers of colonies near areas of increasing human activity. Alberta populations have been estimated at about 780 breeding pairs in 1967-1972, about 20% of the population of the prairie province. DDE has been shown to affect the shell thickness of eggs laid by Alberta birds (Vermeer & Riseborough, 1972).

Black-crowned Night Heron (Peripheral) - This species has bred in the province in limited numbers since about 1957. The Alberta population

has not been estimated, but extrapolation from the data given by Welford & Boag (1971) suggest a maximum of 1000 pairs occurring in the early sixties. The relatively few colonies are vulnerable to habitat change, and predation by gulls. Production studies by the same authors indicate a reproductive success too low to maintain a colony, projecting survival of the Night Heron as a breeding bird in the province to about 20 years (Alberta Bird Report, 1958).

Trumpeter Swan (Rare) - The Trumpeter Swan has a world range limited to Northwestern North America. It was in serious danger of extinction until mid-century but has made a significant recovery. At present, it is not in immediate danger of extinction as a species. However, its Alberta breeding range is restricted to limited regions and continuing protection is needed. About 100 birds nest in Alberta (Osborne, 1973).

Cinnamon Teal (Peripheral) - This small teal breeds on a limited basis in southern Alberta, but detailed status and population size are unknown. No specific threats are known. (Randall, 1946).

Wood Duck (Status undetermined) - There is no detailed information about the breeding status of this species or its population size. Its preferred breeding habitat by woodland lakes is very vulnerable to development (Beacham, 1957).

Greater Scaup (Status undetermined) - This species is now being regularly reported from northern Alberta and may breed in the extreme northeast section. Population size has not yet been determined. (PMA Field notes, unpublished).

Surf Scoter (Status undetermined) - This species has bred at Elk Island National Park, and there is strong presumptive evidence that it breeds in northeastern Alberta. Status, population size and threats are essentially unknown.

(to be continued)

PUBLIC HEARINGS

There are two government-sponsored public hearings of which all Albertans should be aware.

The first is the "Public Hearings into the Use of Pesticides and Herbicides in Alberta". It is being sponsored through the Environment Conservation Authority to determine public reaction to the policies

and programs of the government on matters pertaining to environmental conservation, especially as regards the use of biocides in Alberta.

A set of 8 Information Bulletins have been made available to the general public prior to the public hearings. They cover the use of fungicides, herbicides, insecticides, and vertebrate poisons in Alberta, along with the registration procedures regarding biocides. These bulletins are available free of charge from the Environment Conservation Authority, 9912 - 107 St., Edmonton, Alberta T5K 1G5, phone 423-2247.

The first set of scheduled hearings will have been held by the time this is printed. However, additional hearings have been scheduled beginning December 3, 1974, with further scheduling to be based on public response.

The second public hearing is the Alberta Land Use Forum which is to consider the various aspects of land use in Alberta. The terms of reference include, but need not be limited to, the following subjects.

1. The family farm
2. Multi-use of agricultural land
3. The use of agricultural land for recreational purposes
4. Land use in and adjacent to urban areas as it affects the cost of housing
5. Future land needs of Alberta agriculture
6. Corporate farms, foreign ownership of land, absentee ownership and communal farming
7. The common ownership of land, agricultural processing and marketing facilities
8. Land use as it influences population distribution in Alberta
9. The extent, if any, to which the historical right of a land owner to determine the use and disposition of agricultural property ought to be restricted.

The Forum is to proceed in four phases: The first phase will be to gather available background information relating to the terms of reference. Phase two will be to make the information available to the public. Approximately 80 community public information meetings will be held throughout the province. The third phase will be to hold public hearings in various centres throughout the province. It is anticipated that the hearings will be held during the early part of 1975. The fourth and final phase will be for the Forum to compile the information presented by the public at the hearings and to submit a report to the Government with its recommendations.

Summary copies of each of the 9 subject areas of the terms of reference of the Forum are available free of charge from the Alberta Land Use Forum, Petroleum Plaza, 9945 - 108 Street, Edmonton, Alberta. T5K 1G8 (Telephone 424-7316).

All Albertans are urged to become informed of the matters being discussed at these public hearings, and to actively participate if possible.

TEACHER'S CORNER: "Don't Drive More Than One Car at a Time"

by Harold Dunn (reprinted from Conservation News,
Volume 39, No. 18, p. 8)

When children in my fourth grade classroom in St. Louis, Missouri, were encouraged to share their ideas on how to ease the energy shortage, they were certainly up to it. Here are some original, if occasionally impractical, suggestions:

Pass a law so we can have Season Saving Time. Make it so that spring lasts from March 1st to July 31st and fall lasts from September 1st to December 31st.

Change jobs so that everybody is working at the place closest to their homes.

Pullout all the kinks in the road, so we don't have to drive so far.

Put hardback seats in cars so people won't take unnecessary trips.

Don't put so much water in the car in the summertime. Then it won't have so much humidity in it and won't feel the heat so bad.

Don't accept any new inventions using oil and electricity and things we are short of.

Don't have so many days people have to drive to work or school.

Cars don't need to be all that clean. Have more pools for people instead of for cars.

Don't drive more than one car at a time.

Cold engines take more gasoline. Everybody should put insulation around their engines.

Put a plastic bag over the pipe in the back of the car and catch the stuff that comes out so it can be used again.

Find out if oil has another name besides petroleum and look for it under that name.

Help around filling stations so they can have more time to go out and drill for oil.

Find a dinosaur egg and hatch it so the dinosaurs can come back and make more oil for us.

Eat more carrots so we can see just as good with less light.

Take an atom bomb and make a waterfall for the Missississppi (Mississippi) River so we can get more electrical current from it.

Lower everybody's body temperature to 68 degrees.

Learn how to change water into oil.

Find oil on the moon.

Everybody that visits a country with a lot of oil, bring back a quart of oil with them.

We should dip all our cars into stuff that glows in the dark so we don't have to use the lights at night.

Fix it so that cars can travel piggyback on roads like they do on trains.

Cover the outside of cars with outdoor carpeting to help hold in the air conditioning in the summer.

Get a squeezer that can squeeze rocks into oil.

Keep a dog in the car that is trained to bark if the car goes faster than 50.

Make it so that everybody can only drive on snowy days in the winter, so they all have to drive less than 50.

Everybody should drive faster so they won't have to be on the road so long using gasoline.

HIGHLIGHTS OF SPRING MIGRATION, 1974
Part II: Central Alberta

Summarized by Jim Wolford, 8017 - 95A St., Edmonton from compilations by the late Loran Goulden; details can -e seen in spring and summer issues of The Edmonton Naturalist)

As indicated in the last issue for southern Alberta, arrivals for normally early species were delayed. An extreme example was provided by Canada Geese, which were first seen March 16 in 1973 but not until April 5 in 1974. Horned Larks were exceptional, arriving as usual in late February. Many other groups were about two weeks behind their normal schedules; the delays, coupled with flooded conditions from the record snow cover which lingered into early May, apparently caused some groups to pass over our area largely unnoticed (i.e. white geese and many shorebirds).

The amount of flooding from the late and prolonged melt was fantastic and provided at least a stopgap aid for several large recreational lakes whose levels have been dropping in recent years. Much of this increased habitat for migrating and nesting grebes, coots, ducks, etc. was at the expense of shorelines normally used by various plovers and sandpipers.

Under that huge snow cover and at least partly because of large amounts of unharvested grain from 1973, meadow voles became very abundant and were swimming for their lives in the flooded fields during the melt. Movements of Snowy Owls were first noticed in late February and most had departed by mid-April (last seen May 4). These were quickly replaced by a large influx of Short-eared Owls in the Tofield and Edmonton areas. These Short-ears could be seen feasting, along with Marsh Hawks, Ring-billed Gulls, Crows, and Magpies, on the newly aquatic voles.

Rough-legged Hawks were seen only in small numbers this spring; only 18 were reported, the last being very late on June 2. Ferruginous Hawks were present at Tofield in late April and late May. Two Gyrfalcons were seen on April 7, and a late individual was observed on May 5.

A single adult Whooping Crane was seen near Mundare on April 15. The earliest Sandhill Crane was seen on April 14, but peak numbers occurred in the first week of May when about 50,000 passed over the Tofield area. A report of calling Yellow Rails in late May near Spruce Grove needs correction - the song heard was that of the Virginia Rail, another species rarely seen or heard in Alberta.

An early Mountain Bluebird on March 17 preceded the main arrival by three weeks. Townsend's Solitaires were seen twice in mid-April. A very early Tree Swallow was seen on March 31, and Purple Martins were late, with the first sighting on May 4.

Like the white geese, Whistling Swans made a very poor showing this year. However, several thousand Canada and White-fronted Geese were present from mid to late April. Among the ducks, Ring-necks were reported more often than usual.

Great Blue Herons also seemed widespread, perhaps because of the flooded conditions. White Pelicans occurred at Beaverhill Lake in late April and late May.

Interesting sightings of migrating Common Nighthawks were made on June 5 near Dunstable and June 7 near Edmonton. On the latter date several flocks of up to 25 birds were seen.

A few rarely-reported species were as follows: a pair of Black-headed Grosbeaks west of Nordegg of June 9; a male Rufous-sided Towhee in Dillberry Lake Provincial Park near Chauvin on May 20; and Sharp-tailed Sparrows singing near Tofield and Stettler on May 5 and June 9 respectively.

HIGHLIGHTS OF BREEDING SEASON, 1974
Part II: Central Alberta

by Jim Wolford, 8017 - 95A St., Edmonton

The extreme spring flooding persisted throughout the summer and benefitted mosquitos and various waterfowl to the probably detriment of some of our local shorebirds. The increased numbers of meadow voles benefitted hawk and owl species nesting efforts.

A Double-crested Cormorant was seen at Elk Island National Park on July 18, and 20 White Pelicans were at Tofield on August 10. There was one intriguing report of an unidentified white egret at Tofield in late May.

One breeding report was received for Ring-necked Ducks near Dunstable, and several Common Mergansers were east of Red Deer on the river in mid-July.

Ospreys nested at Lake Wabamun again successfully and other nests

were occupied near Darwell, Edson, and Jasper. Prairie Falcons had fledged young east of Red Deer; ditto for Merlins in Edmonton. Red-tailed, Swainson's, and Marsh Hawks were abundant and probably reproduced well in our area.

Several nests of the very abundant Short-eared Owls were found, but their success was not followed. Great Horned Owls at Tofield were quite successful in producing young. Three nests of Great Gray Owls were found from Glenevis to Edson. Saw-whet Owls seemed widespread around Cooking Lake after mid-April, and juveniles were seen near Dunstable in September. Hawk Owls nested near Edson and Long-eared Owls in Edmonton.

American Coots were extremely abundant and unusually visible on their nests in flooded fields. Piping Plovers nested at Miquelon Lake and probably also at Gull Lake and near Chauvin. Bonaparte's Gulls had nests near Clyde and Spruce Grove.

The rare and usually more southern Black-billed Cuckoo nested (unsuccessfully) near Devon in the third week of July. A Say's Phoebe was in the Swan Hills on July 20, and a Yellow-bellied Flycatcher occurred near Lac La Biche. Olive-sided and Alder Flycatchers had nests near Edson.

Boreal Chickadees apparently bred near the western edge of Red Deer, since newly fledged young were being fed there on June 4. Brown Creepers raised young near Wildwood. Brown Thrashers were seen in Edmonton, at Gull Lake and near Chauvin. Varied Thrushes were building a nest east of Nordegg on June 8.

Of 700 nest-boxes in the Bluebird Trail program, 37 were occupied by Mountain Bluebirds (28 successfully) and nearly 500 by Tree Swallows. Sprague's Pipits nested near Empress and were also observed near Chauvin. Loggerhead Shrikes seemed relatively common and nested successfully at Tofield; another nest was found at Jenner.

All four species of Alberta vireos were seen near Dunstable. Magnolia, Blackburnian, and Bay-breasted Warblers were found at Pinehurst Lake near Lac la Biche, and a Chestnut-sided Warbler was seen near Fort McMurray. Yellow-rumped (Myrtle) and Palm Warblers as well as Northern Waterthrushes nested near Edson.

Bobolinks were seen east of Edmonton and near Tofield. White-winged Crossbills seemed to be everywhere and abundant in boreal forest areas from Jasper to Spruce Grove. Baird's Sparrows were heard near Chauvin and Tofield.

NOTES ON THE SPOTTED OR WESTERN TOWHEE AT RED DEER

by E.A. Wood, Wife Marjory, Red Deer

Monday, July 8th, about 7 p.m., Noticed the Spotted or Western Towhee male on one of our two feeding shelves. Acting as if it had been familiar with the feeding shelf before.

Tuesdya, July 9th: confirmed with two bird books that it was a Towhee, which we had known from earlier trips in the Crowsnest Pass county of southern Alberta. On this date the male bird made at least a dozen feeding trips to the shelf.

Wednesday, July 10. Male bird on both the close and corner feeding shelves. Seemed to prefer moist bread to wild-bird seed mixture, but feeding hungrily.

Friday, July 12. Noticed that the male bird was carrying food from the shelf to an area north and west of the house, and presumed that this was the nesting area.

Sunday, July 14. Daughter Rondo here, and saw the male Towhee on house shelf.

Saturday, July 20. Towhee coming more frequently, and on this date the female bird fed on the corner shelf with him. We noted that the female was brown where the male bird was black, both with cocked up tails. She was more shy than the male.

Sunday, July 24. On this date the first juvenile Towhee came to the feeding shelf, fed by either male or female at first. Confirmed on this date that there were three young, one a male, the other two females.

Friday, July 26. Towhees still feeding on shelves, amusing scratching antics, often following food that had been scratched off the shelf. By this time they often took refuge in thick bushes near our well; a mixture of spruce, birch and cotoneaster.

Monday, July 29. Towhees often on shelves, on the lawn, and the male adult bird acting as sentinel while the female and young fed.

Wed. July 31. Two young Towhees often on shelves, but not yet feeding themselves. Relying on adults to feed them.

Friday, August 2nd: had all three young in sight at one time, much advanced in color.

Saturday, August 3. The Towhees here most of the day, and like to have drinks from our special bird baths.

Sunday, Aug. 4. Young Towhees trying their vocals, rather soft at this stage, and not the plaintive "che-wink" of adult male. Feathering out more rapidly.

Friday, August 9. Towhee's young now getting enough of a difference in colors to clearly indicate that one was a young male, two were juvenile females.

Tuesday, Aug. 13. Now had fun identifying young Towhees by name: "Spike" the young male, one female called Rusty, the other called Raggedy-Ann.

Friday, Aug. 16. Spike now acting more like senior male, movements jerky and eyes starting to get the reddish gleam of adult male. Female young more subdued, and all have starting a moulting.

Sunday, Aug. 18. Adult Towhees almost as bedraggled as young, in their moult.

Aug. 19. All five birds still here, and, since it was a cold day, frequently visiting our feeders.

We have taken more than a dozen colored pictures of the birds through the windows, but these have not been developed as yet.

HIGHLIGHTS OF FAN FALL FIELD MEETING AND DIRECTOR'S MEETING

The Fourteenth Regular and the Fourth Annual General Meeting of the Board of Directors of FAN was held in conjunction with the Field Meeting on September 28, 1974, at Horn Hill, southeast of Red Deer, with the Alberta Natural History Society ably hosting the meeting.

On the Saturday afternoon about 30 people took part in the field trip to Horn Hill and then on the the Lewis Property. The Lewis Property has recently been purchased by the Government, on the initiative of the Alberta Natural History Society of Red Deer with the support of FAN, as a natural area. In the evening the Horn Hill Hall was packed to hear a local archaeologist, Dell Harrison give an interesting talk on "Artifacts of Alberta" emphasising some of his local finds. We were also entertained by a videotape, produced by FAN director Mike O'Brien and class helpers, entitled "Dam it yes, Dam it NO" on the Red Deer River Dam proposal. To complete the evening Aileen Harmon and Mik McIvor of Bow Valley Naturalalists showed slides and talked about the proposed Yamnuska Natural Area on which they have been doing an inventory. Sunday morning a group went to view one of the proposed Dam sites, and were pleased to see the fall countryside on a crisp morning. We were also treated to plant fossils, a cliff swallow colony, a muskrat as well as the picturesque Red Deer valley.

The individual membership in FAN has now reached the 300 mark, a big increase from this time last year and we look forward to continued increase. Club membership in the Federation still stands at seven, although hopes are high for a club to be formed in Medicine Hat area this winter. The Calgary Herpetological Society are also discussing FAN membership. We exchange publications with 28 organizations and these journals, newsletters, can be borrowed from our Library Curator

(Or Editor). (See the results of the Provincial Bird Ballot elsewhere in this issue.)

The Plant Phenology Study is progressing well and we look forward to a summary report in the next Alberta Naturalist. The promotion of the Great Gray Owl print by Peter Karsten was a great success and we are hoping to have another print for promotion next year - watch for the announcement. Ian Halladay has replaced Dr. Tim Myres as a member of the Alberta Ornithological Records Committee. A progress report was received from this Committee and we hope a report will appear in the Alberta Naturalist soon summarizing the activities of this Committee since its formation.

Reports were received from the Officers of the Federation and from FAN Representatives to the Canadian Nature Federation, Public Advisory Committee on the Environment (Environment Conservation Authority), Cooking Lake Moraine Task Force, Alberta Ecological Survey, Federal-Provincial Wildlife Conference and the Canadian Section of the International Council for Bird Preservation.

An administrative assistance grant was expected from the Province which should see our financing on a firmer basis. Our finances this year were greatly assisted by the sale of owl prints and by our supporting members who number nearly 30.

Two important resolutions passed involved the future of the Gaetz Lake Bird Sanctuary and controversial topic of current coal exploration activities on the East Slopes. An important decision was also made to hold a Special General Meeting in February in conjunction with the next Regular Meeting of the Board of Directors, to discuss some proposed By-Law changes. One important change that will affect all members is that only the January-March issue will be sent to members who haven't renewed by March 31st. So please renew your membership now for 1975 and encourage others interested in natural history to join and support the activities of the Federation.

The new or continuing elected officers of FAN were Dr. Frank Harper of Lethbridge, President, Lloyd Lohr of Buffalo Lake Naturalists, Vice-President, Gwen Goulden of Edmonton Bird Club, Secretary (Corresponding), and Dorothy Boradben of Alberta Natural History Society, Treasurer. Joy Finlay, Dr. Charlie Bird and Dr. John Powell were re-elected as Appointed Directors and Virginia Lang, Editor of the Alberta Naturalist. Dave Spalding was reappointed CNF Representative and John Powell, ECA Representative. Chairman of Standing Committees were as follows: Martin McNicholl (Publications); Michael O'Brien (Publicity), Mike

McIvor (Wilderness, Parks and Natural Areas); Joy Finaly (Environmental Education), Jim Wolford (Endangered species), John Powell (By-laws and Resolutions), Charlie Bird (Research), and Frank Harper (Finance). Some of these Chairman have a few other Directors helping them and each club hopes to appoint some members, but we would be only too happy to have individual members volunteer to help Committees with the work in areas that interest them. Why not volunteer your services now or plan to send in information, for it is through these working committees that the goals and objectives of the Federation will be reached.

THE PROVINCIAL BIRD SELECTION

Regular readers of the "Alberta Naturalist" will know that the Federation has been proposing the selection of a Provincial Bird for several years. From a list of fifty of the most eligible native breeding birds in the province, the member clubs of the Federation eventually chose eight for the final selection. With the help of the Natural History Section of the Provincial Museum and Archives of Alberta a ballot was drawn up, with descriptions of equal length, about each of the eight birds and a drawing of each bird; with a voting slip at the bottom of the sheet. Some ten thousand ballots were printed which could be used by individuals or groups.

Mailing of ballots took place in the last two weeks of May. Each of the 1500 schools in the province were sent three ballots with a covering letter to the principal and to the teacher with further information about the project and voting procedure. Both letters had been preceded by a news bulletin in the Alberta Teacher's Association Newsletter. Packages were also sent out to all the daily and weekly newspapers in the Province, to the M.P.'s and M.L.A.'s, to the natural history oriented groups and other interested organizations, such as museums, historical societies, Alberta Fish and Game Associations, Waskahagan Trail Association, Provincial Departments, Y.M.C.A., Y.W.C.A., and park naturalists.

Although material was mailed out to a wide audience, there were still groups of people, such as senior citizens homes, who could have been covered. It was hoped, however, that the newspaper releases would notify as many other people or groups as possible, so that they could participate. Several of the newspapers and organization newsletters did carry coverage of the selection and some printed the ballots, which was duly returned with a vote. Phone calls and requests for ballots and more information on the birds were frequently received. The individual response, other than from school, was fairly high with 930 individual

votes. The participation of the schools was remarkable considering some schools only received the ballots in the last two weeks of the school term. Over half the schools responded in some form or other, in some cases a single class, others the whole school. Of the 752 sending returns, some 370 were rural schools. Most of the schools replying were elementary and junior high, but a fair proportion were from senior high or composite schools.

On the whole, the selection of the Provincial Bird generated a lot of interest and enthusiastic response from school children and individuals throughout the Province, including the recently retired Lieutenant-Governor, Grant MacEwan. The American Robin was the only other bird which received some support as a bird that should have been on the ballot. A few school classes and two individuals wrote letters supporting reasons why it should have been on the ballot. The main reason being that "everyone knows the robin", and that is is "a sign of spring". Some of the people returning ballots added comments, antidotes and one a poem, about a particular bird. A few said they were surprised that the black-billed magpie and the Canada jay were on the list. To quote the well known Red Deer naturalist, Kerry Wood, "both (are) nest-robbers of more beneficial species.". However, it was interesting to see how many naturalists did vote for the magpie! One person made the comment "the magpie represents the spirit of hardiness touched by cheerful insanity needed to succeed in this land".

The final result of the ballot was:

1. Great Horned Owl	23,161	23.81%
2. Mountain Bluebird	17,655	18.15
3. Prairie Falcon	12,688	13.05
4. Black-capped Chickadee	12,308	12.66
5. Western Meadowlark	11,099	11.41
6. Red-winged Blackbird	10,585	10.88
7. Gray Jay	5,512	5.67
8. Black-billed Magpie	<u>4,250</u>	4.37

TOTAL VOTES 97,258

The Great Horned Owl was a clear winner gaining nearly a quarter of all the ballots cast. Where a class or club voted as a group we were only able to assign one vote to the bird of their choice unless the number of voters was indicated. The total number of votes cast is an underestimate, as almost 20% of the group votes fell in this category. Probably close to 120,000 individuals mostly school children took part in the selection of a Provincial Bird, which is most commendable.

It is recommended that the Great Horned Owl be nominated as the Provincial Bird. We hope the Government will propose this to the Legislature at an early date through an amendment to "The Alberta Emblems Act" which presently includes the Provincial Arms, Flag of Alberta, Floral Emblem and the Alberta Tartan. In one of the next issues of the Alberta Naturalist we hope to include an article on the Great Horned Owl.

CLUB NEWS

Buffalo Lake Naturalists Club: - The regular meeting of the Buffalo Lake Naturalists' Club of Stettler was held in the Committee Room of the Town Office on September 19 at 8 p.m. with a good turn out of members. After business was dispensed with, Mrs. Ernest Grafe gave an account, complete with slides, of a back-packing trip she had participated in earlier in the summer in the mountains of Banff National Park. This proved interesting as well as educational. The August meeting was held at the home of Eric and Barbara Smith in Stettler. The July meeting took the form of a pot-luck supper at Rochon Sands Park at Buffalo Lake, followed by a visit to the Chirchill Welch property, which is being developed by the Department of the Environment and the Stettler Fish and Game Association. On July 21 ten members of the club took a trip to the Ram River Falls and the Bighorn dam, coming home by way of Nordegg - Lloyd Greenlee.

Edmonton Clubs: - Winter programs are now well underway in both Edmonton Clubs. Each started with a Members' night, in which various members and friends showed slides, largely taken over the past summer. The September meeting of the Edmonton Bird Club was also their Annual Meeting, at which the new Executive was elected. Graeme Greenlee became the new President and Ron McElhaney the Vice-President. Other Executive Members are: Bruce Bembridge, Ludo Bogaert, Hugh Campbell, Dr. Lois Fenna, Martin K. McNicholl, Jack Park, Dr. Bob Turner, Eric Wallace and John Young. The annual meeting of the Edmonton Natural History Club is in January, but the tragic death of the President, Loran L. Goulden, caused some temporary Executive changes. Martin K. McNicholl automatically became President for the remainder of Loran's term, and Jim Wolford was appointed Vice-president by the Executive. Bruce and Gail Bembridge became new Directors. After two years of service, Moira English resigned as Editor of the "Edmonton Naturalist" and Gwen Goulden was appointed to succeed her. The Natural History Club has been privileged to hear Dick Fyfe talk on raptor research and Dr. Barry Gilbert on Pronghorn Antelope behaviour so far this fall, and the Bird Club moved the meeting night back one week in October to hear Dr. C. Stuart Houston of Saskatoon speak on the natural history discoveries of the Franklin Expedition. Both Clubs have a good selection of speakers lined up for the remaining

months and the Natural History Club has several workshops and field trips planned. The Bird Club continues to sponsor the Audubon films. Both Clubs helped FAN put on a display at the Londonderry Shopping Center, promoting all three clubs. The Natural History Club presented a brief to the Biocides hearings of the ECA, supporting FAN's brief. Considerable progress has been made by Bob Lister on his book on the birds of Beaverhill Lake, a Bird Club project. - M.K. McNicholl

NOTES AND NEWS

WISCONSIN GRACKLE IN ALBERTA - Marion K. Steaking, writing on a decade of banding in Wisconsin, adds a bit of information on Alberta birds. A report in Inland Bird Banding News, 46: 123-137, 1974, lists an adult female Common Grackle as banded on 18 April 1965 in Wisconsin and shot by E. Buettner on 26 June the same spring at Grand Centre, Alberta.

GREENLAND TO HAVE WORLD'S LARGEST PARK - IUCN Bulletin reports that plan are going ahead for a 173 million acre park virtually covering the north-east third of Greenland. It will be 16 times as large as Wood Buffalo Park, hitherto the largest at about 11 million acres. Most of this is icecap but parts are well vegetated and good habitat is included for many arctic animal and bird species, a few of which are endangered. It is uninhabited except for an airfield and government installations.

JONES ALMOST TOPS BANDING LIST - The 1973 annual banding report of the Western Bird Banding Association (covering Alberta, B.C., Yukon, 13 U.S. states, Mexico and the Pacific Islands) lists Edgar T. Jones of Edmonton, Alberta, as the bander with the second highest number of species banded for the region in 1973. Ed banded 103 species in 1973, compared to 94 in 1972. Only Allegra Collister of Colorado, with 107 species, topped him. R. Wayne Campbell of Victoria B.C., exceeded all banders in the region in number of individual birds banded: 4,355. Wayne is an external member of the Alberta Ornithological Records Committee. 45 species are listed (3 of which he tied with one other bander). Wayne topped two species, his 3,790 Glaucous winged Gulls forming a large portion of his total catch.

WOLVERINE STUDY - Colin Holbrow is conducting a "Feasibility Study of Wolverine or signs of wolverine" contact him at Natural Resource Institute, University of Manitoba, Winnipeg, Manitoba R3T 2N2.

REGULATIONS GOVERNING LEADED GASOLINE - Environment Canada has issued regulations under the "Clean Air Act" stating a maximum permissible concentration of lead in leaded grades of gasoline not to exceed 3.5 grams per imperial gallon. These new regulations come in force on January 1, 1976. It is expected that the absolute limit of 3.5 grams will guard against increased usage of lead in leaded grades of gasoline and, in combination with the anticipated increase in sales of lead-free gasoline, these actions should bring about the desired progressive reduction in total lead emission from automobile exhaust (Taken from "Citizens' Bulletin, October, 1974, published by Environment Canada).

FROM THE A.O.U. - Among scientists whose contribution to ornithology was officially recognized by the American Ornithologists' Union by election to their category of Elective Members at the October, 1974 meeting in Norman, Oklahoma, was Fred C. Zwickel of the Department of Zoology, University of Alberta. Dr. Zwickel's research is largely on population regulation in Blue Grouse. Dr. E. Otto Hohn of the Department of Physiology at the same university was similarly recognized last year. Among speakers at a species symposium on arctic ornithology in honour of Dr. George M. Sutton this year was Philip S. Taylor of Edmonton.

ENDANGERED SPECIES NAMED IN ONTARIO - The four species to be protected by Ontario's endangered species act were named recently. They are the Peregrine Falcon, Blue Racer Snake, Timber Rattler, and Bald Eagle. The law was passed some time ago but no species was designated at the time. Others will be added as necessary. (Taken from "Newsletter: What's New at Environment Canada").

BROWN PELICANS NESTING IN LOUISIANA - Louisiana wildlife agents report that a colony of brown pelicans was nesting again in Barataria Bay about 70 miles south of New Orleans where pesticides had wiped out the state bird in the early 1960's. For six years, the only brown pelican in Louisiana was on its state seal. But Florida donated more than 200 of its own brown pelicans to Louisiana and now some 450 of the birds are nesting in the area. The Environmental Protection Agency banned the use of DDT in 1972. (Taken from Cosnervation News, Vol. 39, No. 17).

REQUEST FOR GREAT GRAY OWL AND HAWK OWL REPORTS - Bob Gehlert of Edmonton has begun a banding program of Great Gray Owls and Hawk Owls. Bob hopes to learn more about nexting behaviour, distribution and movements of these species. Anyone seeing a Great Gray Owl or Hawk Owl in the Edmonton region is requested to phone Bob at 476-0872 noting the exact location of the observation. Of special interest would be any report of an owl seen repeatedly in a particular area.

The Alberta Naturalist is published quarterly by the Federation of Alberta Naturalists. Any material printed for the first time in the AN may be reproduced without permission. Credit lines will be appreciated.

Deadlines for submission of material to the Editor are: February 15, May 15, August 15 and November 15. Please include your address. All maps, charts, et cetera, should be submitted on white paper, of the appropriate size for publication.

FAN membership fees are \$2.00 per year (January through December) regular, \$10.00 supporting, tax deductible. Mail remittance to Mrs. Dorothy Broadbent, R.R. #4, Red Deer, Alberta.

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